

US EPA ARCHIVE DOCUMENT

**Building Sustainable School IPM Inside and Out**  
**Developing and Implementing Standardized Training Materials and IPM**  
**Proficiency Exams for Certification**

*Arizona Board of Regents – The University of Arizona*

**Snapshot – April 2015**

<b>Project Period</b>	February 2014 – January 2016
<b>Funding</b>	\$250,00.00 awarded, \$82,717 expended = \$167,283 (67%) remaining
<b>Progress on Objectives</b>	
<i>A development workshop tentatively planned for Dallas in March 2014 including the principal investigators, support staff, EPA regional and EPA School IPM Center of Expertise staff, and others to finalize performance objectives, training curricula and certification/certificate mechanics.</i>	
<ul style="list-style-type: none"> <li>Strategy meetings completed thus far:               <ul style="list-style-type: none"> <li>2014-09 – Dallas, TX. For all documents go to: <a href="http://cals.arizona.edu/apmc">http://cals.arizona.edu/apmc</a></li> <li>2015-03 – International IPM Symposium. Open meeting, poster and presentation session</li> <li>Multiple all-hands and committee conference calls</li> </ul> </li> </ul>	
<i>Detailed and comprehensive performance objectives for each key IPM role in K-12 schools</i>	
<ul style="list-style-type: none"> <li>Business model, detailing plans for long-term financial viability of the certification program, is under review.</li> <li>Performance objectives verified by stakeholders with feedback regarding learning objectives from their prospective area: 34 custodians, 25 landscape and grounds staff, 47 school nurses, 3 facility managers, 15 teachers</li> <li>Learning objectives weighted in preparation for exam allocation for all 9 roles.</li> <li>Secured <a href="http://StopSchoolPests.com">StopSchoolPests.com</a> and <a href="http://StopSchoolPests.org">StopSchoolPests.org</a> domains.</li> </ul>	
<i>Standardized curricula to train individuals in each key role to achieve the performance objectives, available online and through training workshops offered by proficient instructors.</i>	
<ul style="list-style-type: none"> <li>Generic School IPM plan template for facility managers lesson completed and under review <a href="http://ag.arizona.edu/apmc/westernschoolIPM.html#pubs">http://ag.arizona.edu/apmc/westernschoolIPM.html#pubs</a></li> <li>Teachers module developed: All-hands introductory materials, custodians, landscape and grounds, nurses, teachers, facility managers</li> <li>Proficiency tests developed: All-hands introductory materials and pest management professionals</li> <li>Performance objectives verified by stakeholders:               <ul style="list-style-type: none"> <li>Due to poor initial response, a second request has been sent out to teachers for performance objectives verification. School administrators have received a request to provide input on the learning objectives.</li> </ul> </li> <li>Teaching modules developed: Administrators, Food Service, Maintenance and School nurses</li> <li>Teaching modules developed for 8 of 9 roles, reviewed by review committee and stakeholder teams and posted online at <a href="http://cal.arizona.edu/apmc/StopSchoolPests.html#members">http://cal.arizona.edu/apmc/StopSchoolPests.html#members</a></li> </ul>	
<i>Sustainable program offering IPM certification and certificates for each key role</i>	
<ul style="list-style-type: none"> <li>Not planned yet</li> </ul>	
<i>Train-the-trainer workshop to teach and qualify proficient trainers</i>	
<ul style="list-style-type: none"> <li>Not planned yet</li> </ul>	
<i>Four pilot trainings to test, evaluate and refine the curricula and certification/certificate mechanics</i>	
<ul style="list-style-type: none"> <li>Training materials piloted in Nebraska, Colorado, Texas and Arizona.</li> <li>Pilot events for 5 of 9 in-class materials complete: <a href="http://cal.arizona.edu/apmc/StopSchoolPests.html#lessons">http://cal.arizona.edu/apmc/StopSchoolPests.html#lessons</a>.</li> <li>One self-guided online roles posted.</li> </ul>	
<i>Active involvement of EPA Regional and Center staff</i>	
<ul style="list-style-type: none"> <li>2014-11 - Stop School Pests poster presented at the Entomological Society of America annual meeting</li> <li>2015-04-24 – International IPM Symposium School IPM open meeting, poster and presentation session</li> <li>2015-04-01 - Update call with EPA</li> <li>2015-04-20 - Development committee call</li> <li>Ongoing - stakeholders providing/distributing training/tests</li> </ul>	

## Expanding Verifiable Integrated Pest Management in Colorado and Utah Public Schools

Colorado State University

Snapshot – April 2015

**Project Period** June 2012 – May 2015

**Funding** \$250,00.00 awarded, \$217,070 expended = \$30,930 (12%) remaining

### Progress on Objectives

#### *Increase the probability of successful School IPM implementation through improved understanding of school culture, opportunities, human health, and environmental concerns, and readiness for change*

- School IPM information distributed regularly via newsletters, emails, and blog. Monthly newsletters are sent to school districts in CO, School IPM websites in UT and CO updated, and “healthy communities” blog has weekly posts. Pest Presses have been translated into Spanish and made available via the web. School IPM website developed in UT and updated in CO ; Number of people receiving monthly newsletter doubled in 3 months, requests for newsletter increased in response to survey and various presentations
- Data from 50 interviews with school district personnel and key stakeholders were analyzed to determine community readiness and the best strategy forward. The results were presented at the National Conference on Urban Entomology and the National Healthy Homes Conference.
- Surveys of pest management practices to determine IPM readiness were completed by 84% of CO districts in and 46% of UT districts
- Interviewed pest control operators in CO and UT - interview with retiring IPM coordinator from Denver Public Schools [posted on YouTube](#)
- CO focus group completed – decided best route forward was personal interviews with key stakeholders in participating schools

#### *Demonstrate best IPM practices by conducting on-site assessments using established IPM measures; providing customized and targeted training in two school districts in each state; and collaborating with other states and regions in methodology and educational outreach*

- On-site assessments conducted at 2 districts in UT and 3 districts in CO
- Multiple educational sessions held with school stakeholders. UT – the six pilot schools are visited monthly. CO - state school IPM meeting held in June 2014.
- School districts attended a turf management workshop in August 2014 in Boulder, CO.
- As of September 2014, Utah State University Extension is planning 17 SIPM workshops, in connection with the new state law
- Two, 1-day workshops in each state; training with facility managers and Environmental Risk Officers in Front Range school districts.
- Presentations made at the Green Schools Summit, CO Environmental Health Association, CO Alliance of Environmental Educators, and at Affordable Comfort Inc. National conferences and educational/poster sessions held at state-wide meetings

#### *Evaluate decision-making tools to substantiate costs of SIPM*

- Salt Lake City School District is piloting iPestManager version 2 - <http://youtu.be/y-HweDSgyeg>
- Goal: Update iPestManager software tracking and reporting tools and pilot test.
  - Programming work on iPestManager web-application is complete

*The portion of the grant that went toward creating and testing iPest version 2 (to SLCSO) cannot be completed due to the depletion of funds and difficulty with program portability. The full budget that was to be used for both version 2 development, implementation, training, support, and testing was taken up completely by expensive programming fees (that were, unfortunately, the cheapest available) and a few minor setbacks in the programming process. While version 2 is ready, BETA testing won't occur until after the project period.*

#### *Increase diffusion of verifiable SIPM adoption and implementation and through collaboration with stakeholders (including landscape professionals, pest management professionals and public health workers), partners (school districts), state and multi-state meetings and Region 8 coalition.*

- Several CO Coalition meetings were held with different focuses. Several videos from the meetings, including a school pest inspection, are available at <http://ipm.agsci.colostate.edu>
- Conference calls are regularly held between Colorado and Utah partners and Region 8 EPA personnel.
- New tools are in development, including a website link to help coordinators with pest identification on sticky traps and a School Pests pocket guide.
- 19 YouTube videos on pest problems were posted.

## Building on Success: Expanding Efforts to Implement Integrated Pest Management in Michigan and Indiana Schools

Michigan State University

**Snapshot – April 2015**

**Project Period** January 2014 – December 2015

**Funding** \$158,518.00 awarded - \$77,800 expended = \$80,718 (51%) remaining

### ***Progress on Objectives***

***Build a Bi-State School IPM Coalition for Michigan and Indiana that will be supported by the following activities: develop a School IPM website and produce quarterly newsletters.***

- The Michigan School Officials association was sent for distribution to their membership: (1) a request to join a listserv to receive school IPM newsletters and updates and (2) the 1<sup>st</sup> School IPM newsletter.
- Improving Kid's Environment established a 300+ member School IPM Coalition email list and distributed the IPM Institute's monthly School IPM e-newsletter and other news items.
- The MSU website ([http://www.ipm.msu.edu/community\\_and\\_home/community](http://www.ipm.msu.edu/community_and_home/community)) was reformatted to include a subscription listserv to announce upcoming programs/training/webinars and to distribute School IPM news.

***Modify and improve the education and verification components for the on-line certification process required of individuals in Michigan who participate in IPM activities in schools.***

- The Michigan Department of Agriculture and Rural Development will develop a more appropriate and interactive online training experience about IPM for pesticide applicators who wish to conduct pest management activities in Michigan schools, day care centers, public schools and health care facilities.
- Developed the outlines for new training modules.
- Completed revisions for the first two online training modules to better reflect Michigan conditions/laws/regulations and registered technician requirements.

***Focus on underserved communities by choosing schools from large urban school districts to be used as demonstration schools. Cities that will be targeted will include, but not limited to, Detroit, MI and Indianapolis, IN.***

- Michigan Department of Agriculture and Rural Development will provide a list of schools that are not in compliance with Michigan law (anyone who applies pesticides to schools must receive verifiable training in IPM) and shows a need for help with their IPM program.
- Saugatuck Public Schools (40% of student population eligible for subsidized lunches) has agreed to work with Michigan on IPM in their school buildings.
- Ike has been working with IPSD with their demonstration. An inspection (of exterior doors and exterior of the building) along with recommendations has been conducted on an Indianapolis Public school (Joyce Kilmer Academy, School #69).
- MDARD provided 33 school inspection reports conducted May 2014 and December 2014 in which 9 schools were in complete compliance.

***Link any School IPM program materials developed to other Healthy School Programs, where appropriate.***

- IKE held two Healthy Schools training in June.
- Additional pages with links to appropriate information was posted to the MSU PSEP School IPM page:
  - Healthy Schools Network, Inc.
  - E Extension: Using Integrated Pest Management Action Plans for Schools

## iSchool Pest Manager Project – School IPM Enhancement Program

Texas A&M AgriLife Extension Service

### Snapshot – April 2015

<b>Project Period</b>	October 2013 – September 2015
<b>Funding</b>	\$249,218.00 awarded - \$92,372 expended = \$156,846 (63%) remaining
<b>Progress on Objectives</b>	
<b><i>More efficiently and effectively deliver information and resources on School IPM to end users</i></b>	
<ul style="list-style-type: none"> <li>Has developed The First Draft of National IPM Spreadsheet with the contact names and resources for each state, region or national effort. The next step will be to devise a spreadsheet that entails each states fact sheet, policy statements, inspection sheets, etc.</li> <li>Drilldown Phase 2 spreadsheet – coding of resources that will have school/childcare IPM documents organized and sorted for the mobile app/website               <ul style="list-style-type: none"> <li>1141 resources of 1594 on the Drilldown master list have been first round coded for the mobile app for a completion rate of approximately 82%.</li> <li>22 resources received via email have been first-round coded yielding a total of 1042 coded resources.</li> <li>Of the 1042 resources, 62 are Spanish (5.9%)</li> </ul> </li> <li>Obtained domain name: <a href="http://www.ischoolpestmanger.org">www.ischoolpestmanger.org</a></li> <li>Will build a website and mobile app that will be housed on the Oregon State servers. Website will have limited information, old information (dated 5-7 years in the past) will be rotated off. Oregon State University will maintain the website after the life of the grant.</li> <li>The new eXtension model website was accepted by the Extension Committee on Organization and Policy (ECOP) to serve 38 premium members and 20 basic members</li> </ul>	
<b><i>Foster greater knowledge and awareness of School IPM</i></b>	
<ul style="list-style-type: none"> <li>Hosted an eXtension Urban IPM workday that was held in conjunction with the National Conference on Urban Entomology. Although attendance is usually low at this session, the session was held on a weekend before the main conference and received favorable attendance (close to 50 people).</li> <li>School IPM Session on technology which will include a session on the iSchool Pest Manager was accepted for the 8<sup>th</sup> International IPM Symposium.</li> </ul>	
<b><i>Increase adoption of School IPM in US schools</i></b>	
<ul style="list-style-type: none"> <li>An individual from the Southern IPM Center assisted Ms. Janet Hurley with blog post about sustaining a school IPM program, what do you need to be successful. <a href="http://ipmsouth.com/2014/07/10/forming-a-battlefront-against-pests-in-schools-the-pest-mamagement-team">http://ipmsouth.com/2014/07/10/forming-a-battlefront-against-pests-in-schools-the-pest-mamagement-team</a></li> <li>Received a Southern Region IPM Center Enhancement Grants-Seed in May that will be used to develop a low-cost IPM Curriculum for Public Schools and Municipalities. Once this project is completed it will allow the iSchool Pest Manager project to have place to locate course material in a central location and the ability for certain states to offer CEU credit.</li> </ul>	

<b>A School IPM Consortium Reaching One Million Children</b> <i>University of Florida</i> <b>Snapshot – March 2015</b>	
<b>Project Period</b>	May 2012 – April 2015
<b>Funding</b>	\$250,00.00 awarded, \$237,530 expended = \$6,842 (3%) remaining
<b>Progress on Objectives</b>	
<b><i>Implement IPM in the following or comparable school districts in each consortium state, adding 194,601 children; 25,040 staff and 221 schools to existing programs.</i></b>	
<ul style="list-style-type: none"> <li>Objective achieved               <ul style="list-style-type: none"> <li>Meeting scheduled with <a href="#">Palm Beach County Public Schools</a> to discuss IPM status and potential pilot.                   <ul style="list-style-type: none"> <li>11<sup>th</sup> largest district in U.S.; 5<sup>th</sup> largest in Florida with 185 schools and 183,000 students</li> <li>21,000 employees, including 12,000 teachers</li> </ul> </li> <li>Continue to offer assistance and training to stakeholders and school personnel</li> <li>Provide comprehensive IPM support to pilot schools</li> <li>Distributed monthly Pest Presses and bed bug information</li> <li>Updated the UFL National School IPM website</li> <li>Invited to serve on Florida Department of Education Green Ribbons selection panel – nothing charged to the grant for work, but involvement in Healthy Schools initiative due to grant</li> </ul> </li> </ul>	
<b><i>Provide maintenance training for schools, other agencies and pest control associations actively supporting IPM implementation</i></b>	
<ul style="list-style-type: none"> <li>Fielding numerous request for pest control assistance</li> <li>Held a large amount of training courses – including Foundations of General Household Pest Management, Foundations of Termite Management, School IPM, and IPM Certification</li> <li>Manatee County School District continues to be a “bright spot” showing that even the occasional pest outbreaks occurs, they are able to solve the problems using IPM.</li> </ul>	
<b><i>Complete best management practices (BMPs) for schools where services are outsourced with applicability to in-house pest control</i></b>	
<ul style="list-style-type: none"> <li>Completed. Working on publication to be submitted to Journal of IPM.</li> </ul>	
<b><i>Share curriculum for continuing education credits (CEUs) and other program information with consortium stated and other regional and national coalitions.</i></b>	
<ul style="list-style-type: none"> <li>Completed. Continues work beyond commitments of the grant project plan.</li> </ul>	
<b><i>Florida survey complete for every school district except Miami and Palm Beach.</i></b>	
<ul style="list-style-type: none"> <li>District level survey data and school inspection data are summarized.</li> <li>Frequency data beginning to show interesting trends.</li> </ul>	



**The Pacific Northwest School IPM Consortium:  
Expanding Verifiable Integrated Pest Management in Public Schools**  
Washington State University  
**Snapshot – March 2015**

**Project Period** June 2012 – May 2015

**Funding** \$250,00.00 awarded, \$240,064 expended = \$9,936 (4%) remaining

**Progress on Objectives**

**Measure school IPM implementation in Washington and Oregon using an online survey tool.**

- Washington – 132 school districts (45% of districts and 62% of students in the state) who responded to the School IPM survey shows that 54% have a written IPM policy or plan and 54% have a designated IPM coordinator.
- Oregon – 165 school districts (84% school districts) who responded to the School IPM survey shows that 82% of the school districts have a written IPM policy or plan and 95% have a designated IPM coordinator

**Form a regional Pacific Northwest IPM Consortium of stakeholder organizations to coordinate implementation of proven approaches for school IPM adoption.**

- Expanded the Western Region School IPM Work Group to form the Pacific Northwest IPM Consortium and held four meetings.

**Provide education to Pacific Northwest Consortium members and other change agents.**

- Change Agent Practicum held in April 2013. Attendees learned about EPA's School IPM Center of Expertise (CoE) and the Children's Environmental Health Program and tool a virtual walkthrough to assess the indoor air quality in schools. Participants learned how IPM interacts with the school environment and directly impacts student health and achievement. Perspectives were shared from the viewpoints of pest management, risk management, operations and maintenance, education and outreach to school administrators and staff, and health and safety of students and staff. Each participant developed school IPM action items to complete.
- EPA Region 10 invited the OSU and WSU School IPM Programs to present on School IPM at their Director's Meeting (an annual meeting between EPA Region 10 pesticides staff and directors for pesticide programs from State Lead Agencies from Alaska, Idaho, Oregon and Washington.) Carrie Foss and Tim Stock presented the results of the online survey and gave an overview of school IPM work in each of their states. They also presented on take-aways from the Consortium Strategic Planning, and participated in a discussion on how SLAs might support school IPM

**Provide hands-on training for IPM implementers at the school district level.**

- Thus far 28 training opportunities have been offered in Washington and Oregon, including IPM coordinator trainings, rodent academy, working sessions, and training held at coalition events.

**Provide IPM information to teachers, support staff, department of education, parents and administrators.**

- 12 Pest Presses distributed to all Washington and Oregon school districts.
- NPIC staff (via OSU Extension Services) developed a web-based app for school district staff to access on their smartphones. The app can also be accessed using computers. The app provides links to both the OSU and WSU school IPM websites (each housing the PNW Pest Presses and other IPM resources), as well as key national resources. The app can be accessed at <http://ace.orst.edu/pnwsipm/>

**Verify IPM implementation status using the IPM STAR assessment program.**

- | District          | # students | State Ranking | Status  |
|-------------------|------------|---------------|---|
| o Seattle         | 45,000     | 1             | Certification kick-off meeting held (WA's largest district)     |
| o Evergreen       | 25,600     | 5             | Assessment and evaluation; draft report to school               |
| o Lake Washington | 23,500     | 6             | Assessment conducted; certification pending                     |
| o Bellevue        | 18,500     | 13            | Recertification – Assessment conducted; awarded recertification |
| o Marysville      | 11,700     | 27            | New to IPM Start – Assessment conducted                         |
| o Kelso           | 5,100      | 57            | Assessment and evaluation; certification pending                |
- WSU Urban IPM & Pesticide Safety Program's Becky Maguire trained to conduct IPM Star assessments

**Improve IPM recordkeeping and pest management evaluation in school districts.**

- iPestManager testing cancelled (software not ready); project revised to remove iPestManager objective.

**Diffuse the Pacific Northwest School IPM implementation model to other regions**

- Consortium presented regularly to share ideas and diffuse information to stakeholders in other regions.